

Exhibit 11



September 16, 2020

BY EMAIL

Matthias Kamber
Keker, Van Neest, & Peters LLP
633 Battery Street
San Francisco, CA 94111-1809

RE: *Singular Computing LLC v. Google LLC*, 1:19-cv-12551-FDS (D. Mass.)

Dear Matthias:

I write in response to your letter of September 11th, in which Google alleges that Singular's infringement contentions are deficient with respect to various limitations of the Asserted Claims.

As an initial matter, it is Singular's position that its infringement contentions are not deficient with respect to the limitations identified in your letter or any other limitations of the Asserted Claims. As explained in further detail below, the charts included in Singular's contentions clearly and unambiguously set forth, in an element-by-element fashion, "where and how each element of each asserted claim is found in each accused product or method," as required by the Court's Local Rules in patent disputes.

Regarding Google's demand that "Singular must state what structure[s] in the accused TPU" correspond to "(1) 'one first low precision high-dynamic range (LPHDR) execution unit,' (2) 'a first input signal representing a first numerical value,' and (3) 'a first output signal representing a second numerical value,'" Singular's position is that the structures in the Accused Products corresponding to these claim limitations are already identified in the infringement charts included with its contentions. *See, e.g.*, Infringement Contentions, Exh. A, pp. 6-7; *Id.*, Exh. B, pp. 6-7; *Id.* Exh. C, pp. 16-17, 25-26. These pages of the infringement contentions include figures and explanatory text from Google's own public documentation relating to the Accused Products that correspond to these claim limitations.

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As explained in the infringement charts, “color-coded annotations have been added in order to identify relevant components and features of the Accused Products” for each of the limitations of the Asserted Claims, including the three limitations identified in the previous paragraph. In particular, on each page of Singular’s claim charts you can find figures annotated using red boxes and shading, and portions of the excerpted text that are highlighted and/or underlined in red. These highlighted and annotated excerpts are the portions of the cited evidence that are deemed to be especially relevant to a particular claim limitation, which is also highlighted in red on the left side of the page. In this way, Singular’s contentions establish a correspondence between each limitation of the Asserted Claims, and the corresponding evidence from Google’s own product documentation showing that the Accused Products meet that limitation.

Singular expects that this explanation will put many of Google’s concerns to rest.

Regarding Google’s assertion that “Singular failed to disclose whether it contends that the ‘Vector Processing Unit (VPU)’ qualifies as ‘at least one of a central processing unit (CPU), a graphics processing unit (GPU), a field programmable gate array (FPGA), a microcode-based processor, a hardware sequencer, [or] a state machine,’” this assertion is false. As clearly demonstrated by the infringement chart referenced in your letter, Singular’s position is that the Vector Processing Unit (VPU) does indeed qualify as “at least one of a central processing unit (CPU), a graphics processing unit (GPU), a field programmable gate array (FPGA), a microcode-based processor, a hardware sequencer, [or] a state machine.”

Finally, regarding Google’s demand for additional documents relating to the tests performed by Singular, the information provided in the chart fully explains and documents the tests that Singular performed in order to prove and demonstrate that Google’s Accused Products infringe the Asserted Claims. In particular, for each of the possible, valid, FP32 input values (as described in Google’s own product documentation), Singular has computed the result of performing bfloat16 multiplication on said input values and determining the resulting FP32 output value. As clearly set forth in Singular’s infringement contentions, this test showed that for more than 10% of the possible, valid FP32 input values, the numerical value represented by the output differs by more than 0.2% of the result of an exact mathematical calculation. Thus, the Accused TPUv2 and TPUv3 Products satisfy the requirements of each of the Asserted Claims in this case.

Following our telephone conversation earlier today, Singular understands that Google is requesting the results of each test multiplication performed by Singular in preparing the infringement contentions. To be clear, the volume of test results involved is quite large; it includes two 32-bit input values and one 32-bit output value for each of 2^{64} pairs of inputs, which is more than *206 billion gigabytes* of information. To the extent logistically possible, and in the interest of full transparency and efficient disposition of this dispute, Singular will try to provide these results to Google. If this proves to be impossible, Singular may alternatively seek to provide to Google the

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program code used to generate these test results, which operates according to the algorithm described in the preceding paragraph. Singular is investigating the best way to furnish Google with the information it is requesting, and we will send a follow-up letter when our investigation is complete.

Singular believes that the above explanations and clarifications should be sufficient to resolve all of the issues raised in your letter of September 11th. However, if Google still has questions about the sufficiency of Singular's contentions, Singular is of course ready and willing to further meet and confer with Google on this issue.

Sincerely,

/s/Brian M. Seeve
Brian M. Seeve